REMARKS

The Office Action has been carefully reviewed. No claim is allowed. Claims 1-4 and 6 presently appear in this application and define patentable subject matter warranting their allowance. Reconsideration and allowance are hereby respectfully solicited.

Claims 1-7 have been rejected under 35 U.S.C. §101 because the examiner alleges that the claimed invention is not supported by either a specific and substantial credible asserted utility or a well-established utility. Claims 1-7 have also been rejected under 35 U.S.C. §112, first paragraph for the same reason. The examiner states that because the instant specification does not teach a biological activity of the ARMS proteins, which supports their practical utility, one would not reasonably believe that the ARMS proteins can be used as markers "for neuronal cells which have the ability to undergo continued synaptic changes through adult life", as implied by the specification at pages 26-27. Both of these rejections are respectfully traversed.

The present specification teaches at page 27, lines 3-9 and in Figs. 17A-17F and 18 that ARMS co-localized with VAMP-2 and can be used for the same purpose as VAMP-2, e.g., as a marker for growth cones and synaptic regions of neurons. Attached

hereto are pages from the Synaptic Systems website for the sale of antibodies to VAMP-2.

Anti-ARMS antibodies are particularly useful for visualizing the presynaptic side of synapses and to identify neurons that are growing/regenerating by extending axons and growth cones (see paragraph [0061], which teaches that an anti-ARMS antibody can be used for visualizing the growth cones of neurons). In Fig. 18, the white arrow shows a high density of detectably labeled anti-ARMS antibody bound to the ARMS marker at the growth cone of a "neuronal cell which has the ability to undergo continued synaptic changes through adult life", as would be recognized and understood by those of skill in the art to be present in such a neuronal cell. Being able to visualize growth cones is particularly important when neuroscientists need to determine whether or not neurons are alive and making contacts and synapses, i.e., after injury. Accordingly, the instant specification does indeed disclose a specific, substantial, credible utility for the ARMS protein of the present invention.

Reconsideration and withdrawal of these two rejection are therefore respectfully requested.

Claims 1 and 4-7 have been rejected under 35 U.S.C. §112, first paragraph, as failing to comply with the written description rejection. This rejection is believed to be obviated by the deletion of the recitation of "functional derivatives" in

the claims and by the amendment to define the fragment of SEQ ID NO:2 or 4 as comprising the N-terminal ankyrin repeats of the ARMS proteins.

Reconsideration and withdrawal of this rejection are therefore respectfully requested.

Claims 1-7 have been rejected under 35 U.S.C. §112, second paragraph, as being indefinite. The recitations deemed to be indefinite in claims 1, 5 and 7 are deleted, thereby obviating this rejection.

Reconsideration and withdrawal of this rejection are therefore respectfully requested.

In view of the above, the claims comply with 35 U.S.C. §112 and define patentable subject matter warranting their allowance. Favorable consideration and early allowance are earnestly urged.

Respectfully submitted,

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